

[CONFIDENTIAL DATA REDACTED]

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None of the evidence submitted by the CPUC refutes the evidence that regulation limits competition and leads to higher prices for consumers.<sup>70</sup>

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Even operating under these regulatory constraints, however, consumers have the benefit of lower prices and improved services because market conditions compel cellular carriers to compete for customers.

Experience confirms that the elimination of cellular rate regulation in California will ensure that consumers reap even more benefits. As noted above, Massachusetts deregulated cellular service and consumers immediately benefitted from price reductions of about 12%.<sup>72</sup> The California market, with its favorable mobile demographics and multiple wireless competitors, is conducive to intense competition. California consumers are entitled to the same benefits of competition experienced in Massachusetts.

#### VI. CONCLUSION.

For the foregoing reasons, the CPUC's confidential submission neither corrects the fundamental flaws in the CPUC's analysis nor provides evidence of the failure of market

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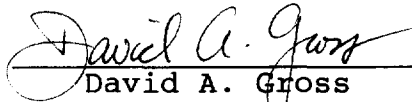
70 Hausman Affidavit at ¶22.

72 Hausman Affidavit at ¶23.

conditions in California to protect subscribers adequately. The  
Petition, therefore, must be denied.

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## APPENDIX A

### Affidavit of Professor Jerry A. Hausman

#### (Redacted Version)

1. My name is Jerry A. Hausman. I am the MacDonald Professor of Economics at the Massachusetts Institute of Technology in Cambridge, Massachusetts, 02139. I gave my qualifications in an earlier affidavit in this proceeding which I submitted on September 15, 1994.

2. I reply in this affidavit to the revised submission of the California Public Utilities Commission (CPUC) on February 1, 1995. The CPUC makes many mistakes in its attempted economic analysis. In this affidavit I point out and correct some of the CPUC's mistakes. Among other things, I am deeply concerned that the CPUC has made public important competitive information of the cellular carriers in California. This competitive information may lead to decreased competition in California beyond the anti-competitive effects of the current CPUC regulation that I discussed in my September 1994 affidavit. The release of this competitive information is a further indication of how little the CPUC understands how competition really operates among firms.

#### I. The CPUC's Analysis of an Alleged Failure to Reduce Prices Given Claimed Lower Costs is Incorrect

3. The CPUC claims that prices have not declined commensurate with the decline in operating costs per subscriber. See data in Appendix H to the CPUC submission. However, the CPUC has not demonstrated that prices have not decreased. The CPUC comparisons are based solely on an analysis of cellular carrier basic plans, not discount plans. As the CPUC data demonstrate, in 1993 only [ ] of AirTouch customers in Los Angeles chose the basic plan; the other [ ] were on one of the other discount pricing plans. When the most economical plans are chosen for various amounts of usage, price decreases are readily apparent.<sup>1</sup> In nominal prices for a 200 minute user the price fell by 12.0% between 1990 and 1993; see Table 1. In real terms (using the BLS CPI-U

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<sup>1</sup> All usage is assumed to be 80% peak and 20% off-peak as in my previous affidavit.

Table 1

## AirTouch Los Angeles Prices

	<u>1990</u> (1990 \$)	<u>1990</u> (1993 \$)	<u>1993</u> (1993 \$)
200 MOU	\$127.80	\$140.44	\$112.41
100 MOU	\$86.40	\$94.95	\$78.27

Note: All usage is assumed to be 80% peak and 20% off-peak.

index of inflation), prices fell by 20.0% over the same period. Note that over this same period, according to the CPUC Appendix H data, the nominal operating expenses per subscriber decreased by only 2.5% for AirTouch in Los Angeles. The price decrease is almost 5 times greater than the decrease in operating expenses.

4. Similar price decreases occurred for a 100 minute per month user. Table 1 shows nominal prices decreasing by 9.4% between 1990 and 1993; real prices decreased by 17.6% over the same period. Thus, contrary to the CPUC's claim, cellular prices have substantially decreased and the decrease far exceeds AirTouch's decrease in operating expenses per subscriber.<sup>2</sup>

5. The CPUC data demonstrate that a rapidly decreasing minority of customers subscribe to the basic plan. For AirTouch in Los Angeles the CPUC data had only [ ] of customers on the basic plan as of year end 1993. (p. J-4). Throughout 1994, the trend toward discount plans progressed rapidly as customers continued to shift from the basic plans to the discount plans. A small percentage of customers still on the basic plan also occurs in San Francisco (p. J-7, [ ] in 1993 for the Block A carrier). Similar results for San Diego are also present in the CPUC data (p. J-20, [ ] for AirTouch in 1993). In both San Francisco and San Diego a significantly lower percentage of customers are on the basic plans in 1994 than in 1993. Thus, a significant migration has occurred from the basic plans to the discount plans over the past 4 years in the major California MSAs. Prices for the basic plans do not demonstrate prices paid by the vast majority of California cellular customers in the major MSAs.

6. The CPUC attempts to dismiss the discount plans because they are subject to conditions, most often a 1 year term. This argument makes no

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<sup>2</sup> AirTouch's usage prices did not decrease between 1986 and 1990 because of a CPUC regulation which did not allow a carrier to reduce its prices without a 40 day notice period and the fact that once a carrier reduced prices it would not be able to raise prices to the previous level without undergoing a complete rate application. Such hearings can last 2 or more years and are extremely expensive to undertake.

economic sense. First, note that the basic plans are still available so that a consumer who chooses a discount plan (and is presumably of sound mind and over 18 years of age) does so because the consumer is made better off. Thus, market evidence demonstrates that consumers benefit from these discount plans since about [ ] (depending on the MSA) of all cellular customers choose these plans. Market evidence is much more important than paternalistic regulatory arguments lacking a sound economic basis. Furthermore, these discount plans are widely used in all other states by cellular carriers. They allow for discounts which are designed for certain levels of cellular usage so that customers can make the best choice available. Most economists, and the FCC in long distance, have decided that such discount plans are pro-competitive, especially when the basic rates are not increasing to offset the discounts.<sup>3</sup>

7. Another fundamental economic error made by the CPUC in its analysis involves cellular carrier margins. For AirTouch in Los Angeles the plant investment per subscriber stayed approximately constant over the period 1990-1993 (p. H-1), decreasing from \$1,088 per subscriber in 1990 to \$1,022 in 1993. During the same time period, operating expenses decreased from \$674 per subscriber to \$657. However, during this time period average operating income per subscriber decreased from \$679 to \$358, a decrease of 47%. This decrease occurred because of the substantial increase of discount plans and because more recent cellular customers tend to use the service less, leading to lower revenue per subscriber.<sup>4</sup> Thus, while operating expenses were declining by 3% and plant expenses were declining by 6%, average operating income per subscriber was declining by 47%. The CPUC's own economic data, therefore, demonstrate that the margin (profit) per customer was decreasing extremely

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<sup>3</sup> Cellular carriers have not raised the price of their basic plans when they offer greater discount plans. This conduct is quite different than AT&T's behavior under the Basket 1 tariff arrangements for long distance.

<sup>4</sup> For example, revenue per subscriber decreased by 25% during this period for AirTouch in Los Angeles.



fast in Los Angeles for AirTouch.<sup>5</sup> This result demonstrates the effects of competition among the cellular carriers in Los Angeles.<sup>6</sup>

## II. Rapid Subscriber Growth Has Occurred Even With Capacity Constraints

8. Rapid growth has occurred for AirTouch in California. Between the beginning of 1990 and the end of 1993 the number of cellular subscribers on AirTouch's California systems grew from [ ] to [ ] for a compound annual growth rate of [ ] per year in spite of the worst recession experienced in California since the end of WWII. In 1994, the growth rate was increased to more than [ ] with the ending of the recession in California.

9. This rapid subscriber growth demonstrates that customers find cellular service to offer good value for their money. More importantly, the rapid subscriber growth has taken place, especially in Los Angeles, in spite of an extremely tight capacity situation. AirTouch had [ ] customers in Los Angeles as of the end of 1993, with an annual subscriber growth rate of [ ]. This growth rate has accelerated in the past year. This rapid growth has occurred notwithstanding capacity utilization which has averaged above [ ] and exceeded [ ] in 1993.<sup>7</sup>

10. As the CPUC's own data demonstrate, cellular does not experience significant economies of scale because both the plant investment per subscriber and operating cost per subscriber remain approximately constant as Appendix H to the CPUC submission demonstrates and as I discussed above. Furthermore, cellular systems are designed to achieve a 3% level for blocked

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<sup>5</sup> Similar results, although less dramatic, also occurred for AirTouch in San Diego and for the Block A carrier in San Francisco.

<sup>6</sup> The decreased margins demonstrate an effective increase in competition of approximately 50% during this time period using the best known model of the markup of price over marginal cost with imperfect competition and large fixed costs found in the economic literature.

<sup>7</sup> Utilization can exceed [ ], but system performance decreases rapidly as the [ ] level is approached or exceeded.

calls. In spite of AirTouch's rapid expansion of cell sites in Los Angeles as well as advanced technology such as sectorization, the CPUC's capacity utilization data for high use cell sites is consistent with blockage levels of up to [ ] during the busy hour at particular cell site locations, such as freeway intersections. The CPUC fails to note that cellular users are mobile and that unlike wireline systems, cellular system capacity utilization and system performance is constrained overall by those areas of heavy demand that require large capital investments. Areas of low demand, which the CPUC refers to in its Appendix M, are irrelevant to a consideration of overall capacity utilization because of commuting patterns of cellular users and the system constraints associated with serving mobile customers that demand service anywhere on the system at anytime.

11. These data on capacity utilization, blocked calls, and system expansion demonstrate that AirTouch is not restricting supply to cause higher prices--the usual method for charging above competitive prices. When demand exceeds capacity, as is the situation in Los Angeles, service providers are able to fill all available capacity at existing prices. Rapid price decreases should not happen in such situations because otherwise demand will increase substantially and customers will receive poorer service because system performance will be degraded.

12. The experience in Los Angeles is similar to New York where cellular systems have also been capacity constrained. Both the New York MSA and the Los Angeles MSA have about 14.5 million people, almost 2 times the size of the next largest MSA. New York is also a regulated cellular MSA. However, prices in the New York MSA have increased over time and are \$110.77 per month for 160 minutes of use. Los Angeles prices have decreased and are now \$99.99 per month for the same usage; see Table 2. Thus, Los Angeles prices are about 10% lower than New York prices.

13. The CPUC's comparison of pricing patterns between large and small markets makes no economic sense. The large MSAs have the same amount of radio spectrum as the small MSAs, yet customer demand is much higher in large MSAs. As a result, the large MSAs, like Los Angeles, are operating at nearly [ ] of

Table 2

### Average Cellular Price in Non-Regulated MSAs: 1985-1994

MSA	1985	1994
CHICAGO	\$70.10	\$58.82
PHILADELPHIA	\$97.60	\$80.98
DETROIT	\$67.22	\$66.76
DALLAS	\$90.68	\$59.78
WASHINGTON DC	\$78.94	\$76.89
HOUSTON	\$91.32	\$80.33
MIAMI	\$114.00	\$94.76
ATLANTA	\$110.80	\$86.73
MINNEAPOLIS	\$102.63	\$75.98
ST. LOUIS	\$80.74	\$67.87
BALTIMORE	\$77.74	\$76.89
PHOENIX	\$108.27	\$79.52
SEATTLE	\$108.27	\$83.06
PITTSBURGH	\$103.14	\$69.87
TAMPA	\$91.32	\$87.95
DENVER	\$108.27	\$73.74
CLEVELAND	\$88.74	\$79.11
KANSAS CITY	\$76.16	\$75.37
CINCINNATI	\$74.40	\$66.67
PORTLAND	\$89.49	\$66.38
MILWAUKEE	\$71.59	\$57.04
SAN ANTONIO	\$85.68	\$59.97
Index Average	1.00	0.82
CPI-U Adjusted	1.00	0.60
Population Weighted Avg.	1.00	0.83
CPI-U Adjusted	1.00	0.60

### Average Cellular Price in Regulated MSAs: 1985-1994

MSA	1985	1994
NEW YORK	\$104.00	\$110.77
LOS ANGELES	\$111.24	\$98.99
BOSTON	\$84.02	\$82.16
SAN FRANCISCO	\$109.00	\$99.47
SAN DIEGO	\$93.88	\$83.85
SAN JOSE	\$109.00	\$99.47
SACRAMENTO	\$56.80	\$61.36
Index Average	1.00	0.95
CPI-U Adjusted	1.00	0.69
Weighted Avg.	1.00	0.97
CPI-U Adjusted	1.00	0.70

capacity. As TDMA and CDMA become operational these capacity constraints will become less important. However, to date AirTouch continues to operate at almost [ ] of capacity in Los Angeles.

### III. The CPUC's Market Share Analysis is Flawed

14. The CPUC continues to focus on the market share of resellers (Appendix E). This focus makes no economic sense because resellers have no significant effect on competition. Resellers provide only limited retail competition. Yet the many agents of the facilities based carriers demonstrate a high degree of competition among themselves, e.g. retail stores such as Circuit City and Good Guys. No economic study has ever demonstrated any link between a higher reseller share and lower retail prices for cellular customers. To the contrary, the reason for a significant presence of resellers in California is because the CPUC is the only state regulatory body which mandates a retail margin. The CPUC enforced markup ranges from 14-38% on access and 18-38% on usage. (CPUC Decision 94-08-022, August 3, 1994, Appendix 3)<sup>8</sup> This enforced margin limits retail competition and leads to higher prices in California. The CPUC in its attempt to protect resellers from competition has harmed consumers by forcing them to pay higher prices for cellular service because of the CPUC mandated margin.

15. The CPUC's HHI calculations (Appendix D) offer no guide to future competition and prices. Nextel is operating throughout California and Cox has begun construction of its PCS network in Southern California. HHI calculations given in Appendix D only make sense if either of two conditions holds: (1) new entrants will not compete with existing systems or (2) new entrants will not have sufficient capacity to compete for existing and new customers. The CPUC forgets that competition occurs on the margin and that PCS and ESMR will have plenty of capacity to compete. These new entrants also have strong economic incentives to compete given the significant investment in

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<sup>8</sup> The CPUC calculates a somewhat lower percentage because it uses the retail rate as the denominator while the correct economic approach is to use the wholesale price as the denominator since the markup applies to it.

their new systems. Indeed, the experience in the U.K. demonstrates the effect of PCS competition. Both the Mercury and Orange networks have been successful almost from their inception--about 25% of new mobile activations in the UK in 1994 have been on these new networks. Cellular prices decreased by almost 30% over the same period in the U.K.

IV. The AG Excerpts Cited by the CPUC Reflect Competition within the Constraints of a Regulated Environment

16. [CONFIDENTIAL DATA REDACTED]

17. [CONFIDENTIAL DATA REDACTED]

18. Regulation has led to higher prices as I discussed in my previous affidavit. During the period 1985-1994, nominal cellular prices decrease by 18% in nonregulated MSAs, but they decreased by only 5% in regulated MSAs, among the top 30 MSAs; see Table 2. However, prices in Los Angeles have decreased by at least 10.1% which is over twice as much as the average for regulated markets. This price competition is the direct result of the CPUC granting the carriers some additional price flexibility in 1993.

19. [CONFIDENTIAL DATA REDACTED]

20. [CONFIDENTIAL DATA REDACTED]

21. [CONFIDENTIAL DATA REDACTED]

22. Indeed, in none of their filings has the CPUC been able to explain my findings that in the top 10 MSAs every regulated price is greater than every unregulated price. (Hausman Affidavit dated September 19, 1994, ¶ 9, Table 1) The average price of regulated MSAs is \$98.10 while the average price of unregulated MSAs is \$70.59, which is a difference of \$27.51 per month or 39%. My regression estimation demonstrates that regulation leads to higher prices by about 15%.<sup>9</sup> (*id.*, ¶ 11) Thus, the CPUC regulation is causing California cellular customers to pay at least \$240 million per year in higher cellular prices.

23. Recent experience confirms my econometric estimates. Massachusetts decided not to petition the FCC and deregulated cellular service on July 1,

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<sup>9</sup> When I change the cellular prices in San Jose to make them equal to San Francisco, the regulation effect changes to 14.9% so that the same effect is found. Thus, the CPUC's objections have no merit. Furthermore, the use of the top 30 MSAs is not "arbitrary" as claimed by the CPUC. Given that 75% of California's population are in the top 30 MSAs, the higher prices paid by California cellular consumers because of CPUC regulation is highly significant.

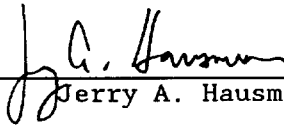
1994. Post-regulatory experience in Massachusetts saw cellular prices decrease by over 12% within 5 months:

Table 3: Minimum Cellular Prices in Boston and Hartford: 1994 160 minutes of use (80% peak)					
MSA	Jan 1994	Regulated	Nov 1994	Regulated	% Change
Boston	\$79.91	Yes	\$69.99	No	-12.4%
Hartford	\$93.31	Yes	\$90.75	Yes	-2.7%

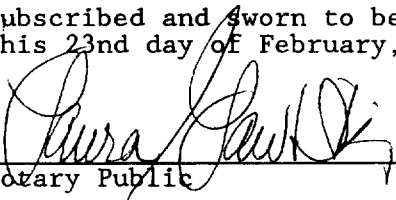
Since deregulation in Massachusetts cellular prices have decreased significantly, much in line with the regression prediction that regulation causes cellular prices to be too high by about 15%. Connecticut, which continues to regulate cellular, has higher prices and prices have not decreased in Connecticut nearly as much as Massachusetts. Thus, consumers in the Boston MSA have already benefitted significantly from deregulation. Consumers welfare, to the extent it is the goal of regulation, has increased because of deregulation of cellular telephone rates in Massachusetts.

24. The recent experience of deregulation in Massachusetts confirms my prior econometric analysis and demonstrates that deregulation leads to lower prices. The goal of regulation of cellular should be low prices and high quality service for consumers. The CPUC has followed other goals such as protection of resellers from competition at the expense of consumers. Does the FCC want lower cellular prices for consumers in California? If so, deregulation is the answer because the CPUC has demonstrated that its regulation has harmed consumers. In spite of its new submissions, the CPUC has not come close to rebutting the fundamental economic fact that there are higher cellular prices in California because of CPUC regulation.



  
Jerry A. Hausman

Subscribed and sworn to before me  
this 23rd day of February, 1995.

  
Notary Public

My Commission Expires: July 3, 1998.

CERTIFICATE OF SERVICE

I, Jo Ellen Marsh, do hereby certify that I have on this 24th day of February, 1995, caused to be forwarded a copy of the foregoing COMMENTS OF AIRTOUCH COMMUNICATIONS ON THE CONFIDENTIAL DATA SUBMITTED BY THE CALIFORNIA PUBLIC UTILITIES COMMISSION IN SUPPORT OF ITS PETITION TO RATE REGULATE CALIFORNIA CELLULAR SERVICE by first class United States mail, postage prepaid, to the following:

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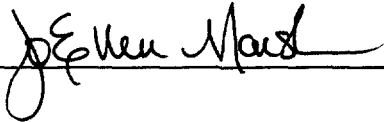
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